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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,612	10/24/2000	Joseph B. Richey II	INVA-Q-CIP-2	2971
24024	7590	03/22/2005	EXAMINER	
CALFEE HALTER & GRISWOLD, LLP			WIEKER, AMANDA FLYNN	
800 SUPERIOR AVENUE				
SUITE 1400			ART UNIT	
CLEVELAND, OH 44114			PAPER NUMBER	
			3743	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,612

Applicant(s)

RICHEY ET AL.

Examiner

Amanda F. Wieker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 11-19 and 25-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,20-22 and 35-38 is/are rejected.
- 7) ☒ Claim(s) 2-10,23,24 and 28-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/7/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 20 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 4,552,571 to Dechene in view of U.S. Patent Number 5,823,186 to Rossen.

Dechene discloses an apparatus for compressing and storing an oxygen-enriched gas, comprising:

a concentrated oxygen source (from 22, 24) having oxygen-enriched gas therein, wherein said oxygen enriched gas contains at least about 50% oxygen by volume (as in Applicant's own invention, Dechene uses type 5a and 13x zeolite, which is necessarily capable of producing a primary product gas of at least 50% oxygen by volume);

a compressor (C) operatively connected to said oxygen source to receive the at least 50% oxygen by volume gas therefrom, said compressor being capable of compressing said oxygen-enriched gas to a high pressure;

and a high-pressure storage container (46) for portable storage of said high-pressure oxygen-enriched gas.

Dechene specifies that the gas can be compressed to about 95% oxygen. Dechene discloses that a compressor (C) compresses the oxygen-enriched gas to a high pressure, and that different types

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of compressors may be used. Dechene does not specify that the compressor be the old and well-known compressor species known as a "radial compressor".

Rossen discloses that a teaching of a "compressor" in the respiratory arts can include the use of radial compressors, Roots blowers, side-channel blowers and scroll compressors (see Summary), wherein the specific compressor used is selected based on the intended function of the compressor. The references are analogous since they are from the same field of endeavor, the respiratory arts.

It would have been obvious to one skilled in the art at the time the invention was made to have provided the device disclosed by Dechene with a "radial compressor", due to the fact that such a species of compressor is known to be within the scope of the generic "compressor" in the respiratory arts, as shown by Rossen. Further, it is noted that Applicant does not afford any substantial criticality to the radial compressor, over any other compressor capable of compressing breathable gas to a high pressure. Such a feature is old and well known in the art, and one of ordinary skill would consider such to be a matter of obvious and routine design choice, rather than constitute a patently distinct inventive step, barring a convincing showing of evidence to the contrary.

The claimed process for filling high-pressure portable containers with concentrated oxygen would be made obvious by the normal use of the device as disclosed by Dechene in view of Rossen.

3. Claims 21-22 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dechene in view of Rossen, and further in view of U.S. Patent Number 5,195,874 to Odagiri.

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Dechene in view of Rossen disclose the previously described apparatus for compressing and storing oxygen-enriched gas, including a radial compressor. Dechene in view of Rossen do not specify the specifics of the cylinders in the compressor.

Odagiri teaches a multistage gas compressor having a plurality of cylinders (23 and 24) each having a piston (not shown), wherein the cylinders are located in a non-adjacent position with respect to each other, and are radially arranged around a crankcase (22). The crankcase would inherently contain the crankshaft to which the pistons are attached by piston connecting rods. The pistons sequentially compress a gas (column 4, lines 23-33), wherein each sequential compression of gas compresses the gas to a higher pressure, wherein the compressor is capable of compressing gas to a pressure of 500-4000 psi, or any other desired amount. In regards to claim 36, Odagiri does not specify the use of five pistons/cylinders/rod sets. However, it is noted that Applicant's specification states that any number of pistons/cylinders/rod sets may be used, preferably from two to twelve (see page 25). Accordingly, the examiner considers the selection of such to be a matter of obvious matter of design choice and as such does not patently distinguish the claims over the prior art, barring a convincing showing of evidence to the contrary. Regarding claim 37, Odagiri does not specify that the cylinders have a single throw. However, it is noted that Applicant's specification does not afford any criticality to a compressor having a single throw versus an individual throw per cylinder. Accordingly, the examiner considers the selection of such to be a matter of obvious matter of design choice and as such does not patently distinguish the claims over the prior art, barring a convincing showing of evidence to the contrary.

It would have been obvious to one skilled in the art at the time the invention was made to have provided the device for the storage of enriched oxygen at an increased pressure as

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disclosed by Dechene in view of Rossen, with the multistage compressing capability taught by Odagiri, to allow optimal and sequential compression of gas. The references are analogous since they are from the same problem solving area, gas compression.

Further, the claimed process for filling high-pressure portable containers with concentrated oxygen would be made obvious by the normal use of the device as disclosed by Dechene in view of Rossen in view of Odagiri.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993)*, *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985), *In re Van Ornumt* 686 F.2d 937, 214 USPQ 761 (CCPA 1982), *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)', and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321* may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b). Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 20 and 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent Number 5,988,165 in view of Rossen.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a portable oxygen enrichment apparatus with a high pressure storage container for portable storage of high pressure oxygen enriched gas, a concentrated oxygen source wherein said oxygen enriched gas contains at least 50% oxygen and a compressor, but does not teach the use of the old and well known compressor species known as a "radial compressor". Dechene specifies that different types of compressors may be used.

Rossen discloses that a teaching of a "compressor" in the respiratory arts includes the use of radial compressors, Roots blowers, side-channel blowers and scroll compressors (see Summary), wherein the specific compressor used is selected based on the intended use of the compressor. The references are analogous since they are from the same field of endeavor, the respiratory arts.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use a "radial compressor" with the device disclosed by '165 because such a species of compressor is known to be within the scope of a teaching of a compressor in the respiratory arts. Therefore it would have been obvious to combine the references to obtain the instant application's claimed invention. Furthermore, such a feature is old and well known in the art, and one of skill in the art would consider such to amount to a matter of mere obvious and routine choice of design, rather than constitute a patentably distinct inventive step, barring a convincing showing of evidence to the contrary.

Allowable Subject Matter

6. Claims 2-10, 23-24 and 28-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 02 February 2005 have been fully considered but they are not persuasive.

On pages 3-4 of the Remarks, Applicant argues that the radial compressor disclosed by Rossen cannot be applied to the device disclosed by Dechene, because Rossen's compressor is used to compress ambient air.

The examiner disagrees. Dechene discloses an apparatus for compressing and storing a breathable gas (oxygen-enriched gas). Dechene specifies that the compressor may be a diaphragm compressor, or any other compressor capable of compressing oxygen-enriched gas. Rossen discloses a compressor for compressing a breathable gas, wherein the compressor may be a radial compressor. Both compressors are used in the compression of breathing gas, and there is nothing in the Rossen reference that teaches away from using a radial compressor for the compression of oxygen-enriched gas.

Further, it is well known in the art to use radial compressors in the compression of breathable gas. See, for example, U.S. Patent Number 6,422,237, which discloses radial compressors as being "effective" and able to respond rapidly.

Lastly, Applicant has not specified any significant criticality to the use of a radial compressor over that of the prior art.

On page 4 of the Remarks, Applicant argues that the Dechene reference does not disclose a portable storage tank.

The examiner again disagrees. Dechene discloses that the apparatus is primarily used for supplying oxygen to welding equipment that would require at least some amount of portability.

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8. Applicant's arguments, see pages 4-6, filed on February 2, 2005, with respect to the Beysel reference have been fully considered and are persuasive. The rejection of claims 2-10, 23-24 and 28-34 has been withdrawn. On page 7, Applicant argues against the rejection of claim 28. This claim has been indicated allowable. The subject matter of claim 28 also appears in claim 36, which is herein rejected, for the reasons newly articulated above, in paragraph 5.

Conclusion

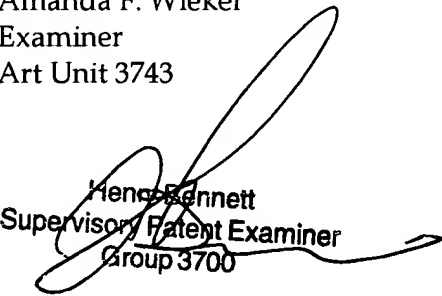
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda F. Wieker whose telephone number is 571-272-4794. The examiner can normally be reached on Monday-Thursday, 8:30 - 6:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amanda F. Wieker
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